

REMARKS

Reconsideration and reexamination of this application in light of the above-amendments and the following remarks is respectfully requested. Claims 1-4, 7-8, 11-16, 19-20, 22-25, and 27-30 are pending in this application. By way of this response Claims 1, 13, and 22 have been amended and Claims 29-30 have been added. Support for the amendments can be found throughout the specification and drawings as filed. No new matter has been added. Reconsideration of the rejections set forth in the outstanding Office Action is respectfully requested in view of the following remarks.

I. Rejection Under 35 U.S.C. §102(e), Akram reference

Claims 1-4, 7-8, 11, 13-16, 19-20, 22-25, and 27-28 stand rejected under 35 U.S.C. §102(e) as being anticipated by Akram (U.S. Patent 6,424,033B1). Applicant traverses this §102(e) rejection in light of the claims as amended.

Claims 1-4, 7-8, 11, 22-25, and 27-28 are directed to aspects of an integrated chip package and Claims 13-16 and 19-20 are directed to a method of forming an integrated chip package.

The subject matter encompassed by Applicant's amended Claims 1-4, 7-8, 11-16, 19-20, 22-25, and 27-28 includes an

integrated chip (IC) package in which an intermediate substrate is arranged above and spaced apart from a planar package substrate and electrically connected to the planar package substrate. This is supported throughout the specification and figures including Figure 1.

In contradistinction, Akram shows an integrated chip package having a die 912 mounted directly to a substrate 914 (see Figures 10-12). Akram does not show the die 912 being spaced apart from the planar package substrate 914. Specifically, in Figure 10 Akram shows and describes the die 912 disposed upon the package substrate 914 (col. 7, lines 39-41; Fig. 10). In another embodiment shown in Figure 11, Akram again shows the die 912 disposed upon the package substrate 914. Similarly in Figure 12, Akram again shows the die 912 disposed upon the package substrate 914.

Whereas the subject matter encompassed by Applicant's amended Claims 1-4, 7-8, 11-12, 13-16, 19-20, 22-25, 27, and 28 includes an intermediate substrate that is arranged above and spaced apart from a planar package substrate. The intermediate substrate is not disposed directly on the planar package substrate as Akram shows, but is instead spaced apart from the planar package substrate.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of these rejections under 35 U.S.C. §102(e) of Claims 1-4, 7-8, 11-16, 19-20, 22-25, and 27-28.

II. Rejection Under 35 U.S.C. §103(a)

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Akram in view of Degani et al (US Patent #5,869,894). Applicant has added independent Claim 29 which includes all of the limitations of Claim 12 and the unamended base claim (Claim 1) to prosecute the subject matter encompassed by previously presented Claim 12. Applicant traverses this §103(a) rejection in light of the following remarks.

Applicant respectfully submits that the combination of Akram with Degani et al to render Claim 29 obvious, is a result of hindsight and that the references lack any teaching, suggestion or motivation to combine. Applicant suggests there is no reason for one of ordinary skill to combine the features of Akram with the support material of Degani et al. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). "The teaching or suggestion to make the

claimed combination ... must ... be found in the prior art, not in applicant's disclosure." In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991), MPEP section 2143. Here, there are no teachings in Akram that provide a teaching or suggestion or motivation to combine its teachings with those of Degani et al. Reliance on "common knowledge and common sense" do not fulfill the Examiner's obligation to cite references to support an obviousness conclusion. See In re Lee, 61 USPQ2d 1430 (Fed. Cir. 2002). Instead, "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Here, particular findings have not been made as to the reason the skilled artisan would have selected Akram's chip package for combination with Degani's support material in the manner claimed. Instead, there is a mere recitation that "it would have been obvious to one of ordinary skill in the art to use Degani et al.'s support material to modify Akram's package for the purpose of preventing chips noise problems that frequently arise due to interconnects that are long or ineffectively placed." This recitation does not provide particular findings as to what the motivation would be for one skilled in the art to combine Degani et al. with Akram.

Here, the Examiner has merely decided to pick and chose portions of the Degani et al. patent, which deal with a support material, and randomly apply those teachings to the chip package of Akram. This cannot be done without some teaching or suggestion to combine the references, which the Examiner has not provided. The Examiner has merely provided a reason why Degani et al. improved its electronic assembly, which has nothing to do with improving the chip package of Akram. Accordingly, reversal of the rejection is requested.

In addition, Akram teaches away from providing a support material between the intermediate substrate and the planar package substrate. "[R]eferences that teach away cannot serve to create a prima facie case of obviousness." In re Gurley, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). "A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." Id. page 1131. In each of Figures 10, 11, and 12 Akram shows and describes disposing a die 912 directly upon a substrate 914. In each case, a flip chip 40, a ball array 920, the die 912, and the substrate 914 are disposed one upon the other in the form of a stack. The addition or lack of a heat

sink 1124, 924 varies from one embodiment to another, but Akram does not disclose varying the mounting relationship between the die 912 and the substrate 914, thereby discouraging a person of ordinary skill from contemplating separating the die 912 from the substrate. Indeed, the claims of Akram additionally recite "the IC chip being mounted upon a substrate" (see independent claims 1, 2, 4, and 7). Further discouraging a person of ordinary skill from contemplating separating the die 912 from the substrate.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of this rejection under 35 U.S.C. §103(a) of independent Claim 29 (previously presented Claim 12).

III. Newly Presented Claims

Claim 29 encompasses the subject matter of previously presented Claim 12 and distinguishes over the art of record for the reasons presented above.

Claim 30 encompasses subject matter similar in scope to previously presented Claim 12, although in a means plus function format.

IV. Conclusion

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Applicant has carefully reviewed each of the rejections set forth by the Examiner and has amended the claims as indicated herein to individually address the Examiner's rejections and to place all claims in condition for allowance. Applicant submits that the specification and drawings are in order and that all of the claims are now in condition for allowance. Such action is respectfully requested. Please apply any other charges or credits to Deposit Account No. 50-1236. If the Examiner would like to discuss the matter further, the undersigned may be contacted at (858) 350-8998.

Respectfully submitted,

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